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Lectures on Bacteria.²

The multiplication of text books of bacteriology written from the standpoint of pure science rather than from that of medicine or technical industry is a hopeful sign. It means, let us trust, the ultimate correction of the asymmetrical development of the subject observable in the last few years, and may perhaps presage a certain reaction from the feverish search after all manner of "curative sera." In fact, continued advance along practical lines is possible only if the broader field is sedulously cultivated. The significance to agriculture, for example, of Winogradsky's work upon the nitrifying organism cannot perhaps be overestimated, but it is increasingly apparent that more research into the purely scientific aspects of nitrification must be forthcoming before we can hope to apply practically the results already obtained. The rescue of the subject of bacteriology from too exclusive devotion to test tube and guinea pig, and the return to the more wholesome if less sensational biological methods, will be forwarded by books like these "lectures" of Fischer.

The lectures contain a full disquisition upon the morphology and systematic position of bacteria, the structure of the cell being viewed, so to speak, from the standpoint of a plasmolysist. Bütschli's conception of the "central body" is, of course, stoutly opposed. Nearly one-third of the book is wisely given up to a description of the part played by bacteria in the transformation of nitrogen and carbon compounds; and the fundamental questions of putrefaction, nitrification, nitrogen-assimilation, fermentation, etc., are lucidly, if somewhat didactically, treated. Thirty pages (out of 160) are given to a consideration of bacteria in the rôle of excitants of disease, but in this brief space the author endeavors to set forth the true inwardness of serum therapy, devotes a word and a picture to the phagocyte theory, and has a paragraph even for the new tuberculin preparations "TO" and "TR!" A series of 164 notes at the end of the book, with references to pages of the text, contains some very useful bibliographical material, and serves to bring the lectures quite abreast of our knowledge. Fischer finds himself wholly unable to accept the remarkable observations of Stutzer and Hartleb³ on the nitrifying organisms (note 72), and completely rejects the notion of extreme polymorphism advanced by these authors, whose investigations he characterizes as "full of gaps and entirely inadequate."—E. O. J.

MINOR NOTICES.

IN MERCK'S Report for August 15 and September 1, Mr. Frederick LeRoy Sargent has a paper on the Rununculaceæ, giving a general account of the morphology of the family.—C. R. B.

² FISCHER, DR. ALFRED.—*Vorlesungen über Bakterien*. 8vo. pp. 186. Jena: Gustav Fischer, 1897. *M* 4.

³ *Centrabl. f. Bakt.* 3²: 1897.